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EXAMINER

NGUYEN, HUY D

ART UNIT

PAPER NUMBER

2684

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/503,272

Applicant(s)

MAATTANEN ET AL.

Examiner

Huy D Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 7-10, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (U.S. Patent No. 5,867,772) in view of Johnson, Jr. et al. (U.S. Patent No. 6,381,477).

Regarding claims 1, 7-10, 28, Jonsson et al. disclose a cellular telephone that comprises a printed circuit board 50, a keypad 30, a display 40, outer cover 20 consisting of two parts, and a frame construction into which the above parts are mechanically coupled (see FIG. 1 and 2 and Col. 3, lines 19-35). Jonsson et al. fail to disclose a reader for a detachable memory module. Johnson, Jr. et al. teach a SIM card reader 107 (see FIG. 2 and Col. 2, lines 39). It would have been obvious for one of ordinary skill in the art at time the invention was made to include in Jonsson et al.'s telephone a memory card reader as disclosed in Johnson Jr. et al. since that would allow the phone to receive memory card.

Regarding claim 2, Johnson, Jr. et al. disclose a battery compartment and battery cover 122 (see FIG. 2).

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Regarding claim 11, Johnson, Jr. et al. disclose a cell phone wherein frame construction comprises an essentially planar surface and a set of ridges protruding from it for attaching the printed circuit board onto ridges parallelly to essentially planar surface but separated from it and so that ridges divide the space between essentially planar surface and a printed circuit board so attached into at least two separate subspaces (see FIG. 2)

Regarding claims 12, 13, it is obvious to one of ordinary skill in the art that conductive material provides electromagnetic shielding. Therefore, it would have been obvious for one of ordinary skill in the art at time the invention was made to make the ridges using conductive material since that would help shield electromagnetic interference.

Regarding claim 23, Jonsson et al. disclose a mechanical construction wherein one of the outer cover parts of the mobile telecommunication device defines a display opening 23 and has a certain thickness at the edge of display opening, and window comprises a portion elevated by certain thickness for filling opening so that in an assembled mechanical construction an outer surface of the aggregate formed by outer cover part and window is essentially even (see FIG. 1 & 2).

Claims 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (U.S. Patent No. 5,867,772) in view of Feilner et al. (U.S. Patent No. 6,463,263).

Regarding claims 3-4, Jonsson et al. fail to disclose that frame construction is essentially flat comprising a first side and a second side whereby battery compartment is on the first side and the printed circuit board is to be attached on the second side, and a battery connector shaft as a passage connecting battery compartment to second side. Feilner et al. teach that frame

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construction is essentially flat comprising a first side and a second side whereby battery compartment is on the first side and the printed circuit board is to be attached on the second side, and battery connectors are connected to the printed circuit board (see FIG. 2 and Col. 9, lines 4-7). It would have been obvious for one of ordinary skill in the art at time the invention was made to modify Jonsson et al.'s telephone so that frame construction is essentially flat comprising a first side and a second side whereby battery compartment is on the first side and the printed circuit board is to be attached on the second side, and battery connectors are connected to the printed circuit board as disclosed in Feilner et al. since that would prevent inattended contact of the battery and the PCB.

Regarding claim 5, Feilner et al. disclose that the switches are directly provided on the electronic circuit board or on the dome foil and directly extend through the holes in the front housing.

Regarding claim 21, Feilner et al. disclose a mechanical construction wherein front cover part comprises a set of pins with protruding ends and key mat and dome sheet define a set of holes corresponding to set of pins for assembling the keypad by bringing front cover part, keymat and dome sheet together so that pins go through holes (see FIG. 1; Col. 6, lines 1-67)

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (U.S. Patent No. 5,867,772) in view of Suuronen (U.S. Patent No. 6,438,393).

Regarding claim 6, Jonsson et al. fail to disclose that frame construction defines a vibrational alarm device compartment for housing a vibrational alarm device separately attachable to the frame construction. Suuronen teaches a vibrating alarm (see FIG. 1 and Col. 3,

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lines 11-38). It would have been obvious for one of ordinary skill in the art at time the invention was made to modify Jonsson et al.'s telephone so that frame construction defines a vibrational alarm device compartment for housing a vibrational alarm device separately attachable to the frame construction as disclosed in Suuronen since that would provide flexibility to users.

Claims 14, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (U.S. Patent No. 5,867,772) in view of Fuhrmann et al. (U.S. Patent No. 2002/0057792).

Regarding claims 14, 18, Jonsson et al. fail to disclose that the keypad is a separately assembled stack of layers comprising a front cover part defining a set of key openings, an elastic keymat with a protruding key bulb corresponding to each key opening in front cover part, and a dome sheet with an elastically deformable conductive dome corresponding to each key bulb in elastic keymat. Fuhrmann et al. teach a keypad assembly comprising a front cover part 19 defining a set of key openings, an elastic keymat 24 with a protruding key bulb corresponding to each key opening in front cover part, and a dome sheet with an elastically deformable conductive dome corresponding to each key bulb in elastic keymat (see FIG. 5 and pages 2 and 3). It would have been obvious for one of ordinary skill in the art at time the invention was made to modify Jonsson et al.'s telephone so that keypad is a separately assembled stack of layers comprising a front cover part defining a set of key openings, an elastic keymat with a protruding key bulb corresponding to each key opening in front cover part, and a dome sheet with an elastically deformable conductive dome corresponding to each key bulb in elastic keymat as disclosed in Fuhrmann et al. since that would give endurance to the keypad.

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Regarding claims 15-17, 19, it is obvious to one of ordinary skill in the art to use translucent-to-light keymat and to make some area - which has the form of human-readable character - transparent to light to provide ease of use in the dark. Therefore, it would have been obvious for one of ordinary skill in the art at time the invention was made to make the keymat translucent to light and to make some area - which has the form of human-readable character - transparent to light as disclosed in Davidson et al. (U.S. Patent No. 6,321,441) (see FIG. 1 and Col. 2, lines 55-67) since that would provide convenience for users operating phone in the dark.

Regarding claim 20, it is obvious to one of ordinary skill in the art to use an insulating layer between the dome sheet and the PCB to electrically insulate the dome sheet and the PCB. Therefore, it would have been obvious for one of ordinary skill in the art at time the invention was made to use an insulating layer between the dome sheet and the PCB as disclosed in Aaltonen et al. (U.S. Patent No. 6,274,825) (see FIG. 1 & 4; see Col. 3, lines 10-20) since that would provide insulation for the dome sheet and the PCB.

Claims 22, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (U.S. Patent No. 5,867,772) in view of Takenaka (U.S. Patent No. 6,456,342).

Regarding claims 22, 24, Jonsson et al. fail to disclose a bottom plate for conveying light into the liquid crystal display. Takenaka teaches a liquid crystal display device comprising a ground plate between an LCD and an EL panel serving as a backlight source for the LCD (see Col. 2, lines 9-11). It would have been obvious for one of ordinary skill in the art at time the invention was made to include a bottom plate for conveying light into the liquid crystal display

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as disclosed in Takenaka since that would provide convenience for users operating phone in the dark.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (U.S. Patent No. 5,867,772) in view of Beiswenger et al. (U.S. Patent No. 4,958,911).

Regarding claim 25, Jonsson et al. fail to disclose the display comprising an elastomeric conductor arrangement. Beiswenger et al. teach that the drivers typically connect to the liquid crystal display terminals through a conductive elastomeric connector (see Col. 1, lines 58-61). It would have been obvious for one of ordinary skill in the art at time the invention was made to use conductive elastomeric connector as disclosed in Beiswenger et al. since it provides endurance to the connection.

Regarding claims 26-27, it is obvious for one of ordinary skill in the art to provide mechanical means for aligning the display with the PCB and the frame construction. Therefore, it would have been obvious for one of ordinary skill in the art at time the invention was made to provide mechanical means for aligning the display with the PCB and the frame construction since that would make the construction more robust and look more attractive.

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Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy D Nguyen whose telephone number is 703-305-3283. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Hunter can be reached on 703-308-6732. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-6750.

HN
March 11, 2003


THANH CONG LE
PRIMARY EXAMINER 8/28/03
